



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,775	03/23/2004	Glenn W. Gengel	003424.P061	4285
8791	7590	11/08/2004	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			WU, DANIEL J	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 11/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/807,775	Applicant(s) GENGEL ET AL.	
	Examiner Thomas J. Mullen, Jr.	Art Unit 2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 50,51,53,56-58,61,63 and 65 is/are allowed.
- 6) ☒ Claim(s) 1,4,6,8,16,36,45,54,59,60,66 and 67 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,7,9-15,17-35,37-44,46-49,52,55,62,64 and 68 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 2632

1. The drawings are objected to because: reference numerals should be added to Figs. 5A-5C (it is unclear what elements are being shown in these figures, e.g. the elements to the right of the US dime in Fig. 5A and the light vs. dark regions in Figs. 5B-5C); in Fig. 18, it appears that reference numerals 110 and 120 should be reversed (see Figs. 17 and 19 by comparison); and at least Figs. 1, 2, 5B, 6, 10, 14B, 15 and 17 have darkened or black regions which make it difficult to identify and/or distinguish between certain elements within these figures.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "107" has been used to designate both a bonding pad in Fig. 10 and an antenna in Fig. 11.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 123 (Fig. 12).

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d), and/or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) (as appropriate), are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended". The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The disclosure is objected to because of the following informalities:
specification paragraphs 0014 and 0021, "in accordance to" should be --in accordance with--;

paragraphs 0023 and 0024, "in accordance to" should be --in accordance with--, and it appears that "embodiment" should be --embodiments--;

Art Unit: 2632

paragraph 0034, line 3, it appears that "purpose" should be --purposes--;

paragraph 0037, lines 16-18, there are two (2) left parentheses but only one (1) right parenthesis, i.e. either a right parenthesis should be added (in an appropriate place) or a left parenthesis deleted;

paragraph 0044, line 6, "include of" should be simply, --include--;

paragraph 0045, line 8, it appears that "flushed" should be --flush--;

paragraph 0056, line 6, "located is" should be simply, --located--;

paragraph 0058, next-to-last line, it appears that "dialectic" should be --dielectric--;

paragraph 0059, line 2, a space should appear between "antenna" and "117";

paragraph 0059, line 23, it appears that "allows" should be --allow--;

paragraph 0062, line 5, "in accordance to" should be --in accordance with--, and appears that "embodiment" should be --embodiments--;

paragraph 0063, next-to-last line, "no more that" should be --no more than--;

paragraph 0068, lines 3 and 6, it appears that "132" should be --120-- (referring to the "spacer layer(s)");

paragraph 0068, last line and paragraph 0069, lines 3 and 9, the hyphens in the phrase "bottom-antenna-layer" (total of 3 occurrences) should be deleted;

paragraph 0070, line 3, the hyphens in the phrase "top-antenna-layer" should be deleted;

paragraph 0075, line 2, it appears that the words "top" and "bottom" should be reversed;

and paragraph 0076, lines 1-2, it appears that the words "top" (second occurrence) and "bottom" should be reversed.

Appropriate correction is required.

6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: see claims 6, 14, 34, 46, 47, 62, 64 and 66; there appears to be no mention in the specification of the various "conductive element" materials recited in claims 6, 14, 34, 62 and 64; the planarization layer being a "polymer" as recited in claim 46; or the various processes for forming the conductive traces/elements recited in claims 47 and 66. It is acknowledged that

Art Unit: 2632

the claims filed with the application form part of the original disclosure, such that adding the above subject matter to the specification would not raise the issue of new matter.

7. Claims 5, 9-49, 52, 54-55, 62, 64 and 68 are objected to under 37 CFR 1.75(a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5, 13, 33 and 42, "comprise" (line 1) should be --comprises--, and before "semiconducting" (line 2) should be inserted --and--.

Claim 9, line 8, after "circuit" should be inserted a semi-colon.

Claim 19, line 1, "the RFID tag assembly" lacks antecedent basis.

Claim 23, lines 1-2, "the RFID tag assembly" lacks antecedent basis.

Claim 27, the term associated with the abbreviation "FSA" (line 3) should be spelled out at least once in each set of claims in which it appears (i.e. at least once in each independent claim or any claims dependent therefrom where the term appears).

Claim 36, line 2, "the two conductive elements" lacks clear antecedent basis.

Claim 49, line 2, after "one" should be inserted --of--.

Claim 52, line 1, it appears that "are" should be --is--.

Claim 54, line 2, it appears that "loops" should be --loop--.

Claim 55, line 6, after "integrated" (first occurrence) should be inserted --circuit--.

Claim 62, "the conductive trace" lacks clear antecedent basis.

Claim 64, line 1, it appears that "is" should be --are--.

Claim 64, last line, it appears that "foils" should be --foil--.

Claim 68, "the subtractive patterning method" lacks clear antecedent basis (note the dependency of the claim).

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2632

9. Claims 8, 16, 36, 45, 54, 59-60 and 66-67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8, 16, 36 and 45, as to the phrase "electrically connected to the integrated circuit on opposite corners or in diagonal corners of the integrated circuit", it is unclear if "on opposite corners" and "in diagonal corners" mean the same or different things, with respect to where the electrical connections are between the conductive elements and the integrated circuit; in particular, it is unclear what is meant by "diagonal corners" per se, and it is unclear whether "opposite corners" can mean corners at opposite ends but on the same side (e.g., upper left and lower left), or does it necessarily mean corners at opposite ends and on opposite sides (e.g. upper left and lower right)--i.e., "diagonally opposite" (or "diagonally opposed") corners.

Claim 16 recites exactly the same subject matter as the claim from which it depends (claim 8), whereby it is unclear how claim 16 is intended to further limit the claimed subject matter. Note that each of claims 10-19 depends from claim 8 (which in turn depends from claim 1); it appears that claims 10-19 were intended to depend from claim 9, rather than from claim 8.

Claim 54, it is unclear if "electrical loops [sic] structures" and "inductive elements" mean the same or different things, in terms of further defining the conductive elements.

Claims 59-60, it is unclear what is meant by "conductive elements" per se being "capacitive in nature" or "resistive in nature", as to what either of these phrases imply about the physical characteristics (materials, components, dimensions, etc) of the conductive elements. Note that other claims (e.g. claims 30-31) recite that an electrical connection (or coupling) is "capacitive in nature" or "resistive in nature", as opposed to reciting that the elements being connected (or coupled) have this property.

Claims 66-67, "the conductive element" (line 1 in each claim) is indefinite as there are multiple "conductive elements" previously recited (claim 56, next-to-last line), and it is unclear which of the previously-recited "elements" is intended.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2632

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by either Marsh et al (US 5566441) or Moskowitz et al (US 5528222).

Note in Marsh et al, Figs. 4 and 6; the Abstract and col. 3, lines 20-42. Marsh et al disclose an "RFID" tag comprising a substrate 28 which may be "cardboard packaging material", which (after attachment of the operative components of the tag thereto) may be "folded into boxes", etc (col. 3, lines 58-60); i.e., the substrate 28 is inherently "flexible" (aside from the boxes being "fold(able)", it is generally known that these types of boxes are made from a generally thin sheet of cardboard which is at least somewhat bendable or flexible). The tag further comprises an integrated circuit (IC) 10, "embedded" within the substrate such that the top surface of the IC is "coplanar" with the substrate (as clearly shown in Fig. 6--see col. 4, lines 1-3); and at least one conductive element 18 formed on the substrate and being electrically connected to the IC (via contacts 12 and 16), the conductive element serving as an "antenna" (i.e. "patch antenna") for the tag.

Note in Moskowitz et al, Figs. 3-4, the Abstract and col. 4, line 61 to col. 5, line 25. Moskowitz et al disclose an "RFID" tag comprising a "flexible" substrate (320 or 420); integrated circuit (IC) (310 or 410), "embedded" within the substrate such that the top surface of the IC is "coplanar" with the substrate (see lines 3-4 of the Abstract, col. 4, lines 32-33, and col. 5, lines 20-21--also, note in Fig. 3 that a top surface of IC 310 is "coplanar" with a portion of the thickness of the substrate 320); and at least one conductive element (330 or 430) formed on the substrate and being electrically connected to the IC (via contacts 325 or 425), the conductive element serving as an "antenna" for the tag.

Regarding claim 4, as noted above both Marsh et al and Moskowitz et al disclose an IC having at least two "interconnection pads" (12,16 in Marsh et al; 325 or 425 in Moskowitz et al).

12. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Marsh et al.

Art Unit: 2632

Marsh et al further teaches that the "conductive element" 18 may be formed by "printing a conducting ink" onto the substrate 28 (col. 4, lines 13-15), or formed as a "conductive foil layer" (col. 4, lines 40-42).

13. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Moskowitz et al.

Moskowitz et al further teaches, in a pair of embodiments (Figs. 4 and 5), forming two "conductive elements" (430 in Fig. 4, 530 and 531 in Fig. 5) on the substrate (420 or 520) which are electrically connected to the IC (410 or 510) "on opposite corners or in diagonal corners" of the IC (note the configuration of the contacts 425 or 525 with respect to the ICs).

14. Claims 2-3, 5, 7 and 9-68 are allowed, or would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims, and/or if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph and/or objections under 37 CFR 1.75(a), set forth in this Office action.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Smith et al (US 5545291 and US 2002/127864) were mentioned by applicant in the specification. Jacobsen et al (US 6274508), Leonard (US 6329917), Bickley et al (US 5430441), Isaacson et al (US 5708419), de Vall (US 5574470) and Eberhardt (US 6246327) are cited to further show the state of the art.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Mullen, Jr. whose telephone number is 571-272-2965. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu, can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

TJM



Thomas J. Mullen, Jr.
Primary Examiner
Art Unit 2632